IN THE CLAIMS:

1-49. (Canceled)

50. (Currently amended) A method of producing a human neural progenitor cell from a human ES cell, said method comprising:

obtaining a source of an undifferentiated human ES cell~~:~~; and

culturing the ES cell in the presence of an antagonist of a BMP mediated default pathway of extra embryonic endoderm differentiation ~~for a period sufficient~~ to differentiate the ES cell to a progenitor cell, wherein said progenitor cell lacks at least one marker of said undifferentiated ES cell; and

culturing the progenitor cell in a neural progenitor cell culture medium to obtain a neural progenitor cell.

51. (Currently amended) The method ~~according to~~ of claim 50 wherein the source of said undifferentiated human ES cell is selected from the group consisting of an embryo, a blastocyst, and a culture of undifferentiated ~~orientated~~ embryonic stem cells.

52. (Currently amended) The method ~~according to~~ of claim 51 wherein ~~the ES cell is cultured in the presence of~~ said antagonist is noggin.

53. (Currently amended) The method ~~according to~~ of claim 52 wherein ~~the~~ said noggin is a human or mouse noggin.

54. (Currently amended) The method ~~according to~~ of claim 52 wherein ~~the~~ said noggin is a mouse BMP antagonist noggin comprising amino acid residues 20 to 232 of mouse noggin.

55. (Currently amended) The method ~~according to~~ of claim 52 wherein ~~the~~ said noggin is in the range of 100 to 500 ng/ml.

56. (Currently amended) The method ~~according to~~ of any one of claims 50 to 55 wherein ~~the period sufficient to differentiate~~ the ES cell is differentiated to ~~a~~ said progenitor cell ~~is~~ by culturing the ES cell in the presence of noggin for at least 5 days, ~~and~~ wherein the noggin is in the range of 100 to 500 ng/ml.

57-58. (Canceled)

59. (Currently amended) A method of producing a human neural progenitor cell from a human ES cell, said method consisting essentially of:

obtaining a source of an undifferentiated human ES cell~~:~~; and

culturing the ES cell in the presence of an antagonist of a BMP mediated default pathway of extra embryonic endoderm differentiation ~~for a period sufficient~~ to differentiate the ES cell to a progenitor cell, wherein said progenitor cell lacks at least one marker of said undifferentiated ES cell; and

culturing the progenitor cell in a neural progenitor cell culture medium to obtain a neural progenitor cell.

60. (Currently amended) The method ~~according to~~ of claim 59 wherein the source of said undifferentiated human ES cell is selected from the group consisting of an embryo, a blastocyst, and a culture of undifferentiated ~~orientated~~ embryonic stem cells,

61. (Currently amended) The method ~~according to~~ of claim 59 wherein ~~the ES cell is cultured in the presence of~~ said antagonist is noggin.

62. (Currently amended) The method ~~according to~~ of claim 61 wherein ~~the~~ said noggin is a human or mouse noggin.

63. (Currently amended) The method ~~according to~~ of claim 61 wherein ~~the~~ said noggin is a mouse BMP antagonist noggin comprising amino acid residues 20 to 232 of mouse noggin.

64. (Currently amended) The method ~~according to~~ of claim 61 wherein ~~the~~ said noggin is in the range of 100 to 500 ~~ng/ml~~ ng/ml.

65. (Currently amended) The method ~~according to~~ of any one of claims 59 to 64 wherein ~~the period sufficient to differentiate~~ the ES cell is differentiated to ~~a~~ said progenitor cell ~~is~~ by culturing the ES cell in the presence of noggin for at least 5 days, ~~and~~ wherein the noggin is in the range of 100 to 500 ng/ml.

66-67. (Canceled)

68. (New) The method of claim 50 or 59, wherein said at least one marker of said undifferentiated ES cell is Oct-4 or cripto.

69. (New) A method of producing a human progenitor cell from a human ES cell, said method comprising:

obtaining a source of an undifferentiated human ES cell; and

culturing the ES cell in the presence of an antagonist of a BMP mediated default pathway of extra embryonic endoderm differentiation under conditions sufficient to differentiate the ES cell to a progenitor cell, wherein said progenitor cell lacks at least one marker of said undifferentiated ES cell, lacks a marker of neuroectoderm, and is capable of differentiating into a neural progenitor cell.

70. (New) The method of claim 69 wherein said antagonist is noggin.

71. (New) The method of claim 70, wherein the ES cell is cultured in the presence of noggin for at least 5 days.

72. (New) The method of claim 70 wherein said noggin is a human or mouse noggin.

73. (New) The method of claim 72 wherein said noggin is comprises amino acid residues 20 to 232 of mouse noggin.

74. (New) The method of claim 70 wherein said noggin is in the range of 100 to 500 ng/ml.

75. (New) The method of claim 69 wherein the source of said undifferentiated human ES cell is selected from the group consisting of an embryo, a blastocyst, and a culture of undifferentiated embryonic stem cells.

76. (New) The method of claim 69, wherein said at least one marker of said undifferentiated ES cell is Oct-4 or cripto.

77. (New) The method of claim 69, wherein said marker of neuroectoderm is nestin or Pax 6.

78. (New) The method of claim 69, wherein said progenitor cell is unreactive with any one of the antibodies selected from the group consisting of PHM4 recognising MHC Class 1 surface molecules, anti-desmin, UJ13A reactive with polysialylated N-CAM, Cam 5.2 reactive with low molecular weight cytokeratins, AMF reactive with vimentin intermediate filaments, antibody to 160 kDa neurofilament protein, GCTM-2 reactive with a proteoglycan present on the surface of ES cells, TG42.1 reactive with a 25 kDa protein which copurifies with the proteoglycan recognised by GCTM-2 and is found on stem cells and other cell types, and monoclonal antibody GCTM-5 reactive with a molecule present on a small proportion of cells in spontaneously differentiating human ES cell cultures.

79. (New) The method of claim 69, wherein said progenitor cell, upon further culturing in a neural progenitor culture medium, differentiates into said neural progenitor cell.

80. (New) A progenitor cell prepared by the method of any one of claims 69-78.

81. (New) The progenitor cell of claim 80, wherein said progenitor cell lacks expression of Oct-4 or cripto, lacks expression of nestin or Pax6, and is unreactive with any one of the antibodies selected from the group consisting of PHM4 recognising MHC Class 1 surface molecules, anti-desmin, UJ13A reactive with polysialylated N-CAM, Cam 5.2 reactive with low molecular weight cytokeratins, AMF reactive with vimentin intermediate filaments, antibody to

160 kDa neurofilament protein, GCTM-2 reactive with a proteoglycan present on the surface of ES cells, TG42.1 reactive with a 25 kDa protein which copurifies with the proteoglycan recognised by GCTM-2 and is found on stem cells and other cell types, and monoclonal antibody GCTM-5 reactive with a molecule present on a small proportion of cells in spontaneously differentiating human ES cell cultures.

82. (New) A substantially homogeneous cell population of human progenitor cells prepared by the method of claim 69.

83. (New) The cell population of claim 82, wherein said progenitor cells lack expression of Oct-4 or cripto, lack expression of nestin or Pax6, and are unreactive with any one of the antibodies selected from the group consisting of PHM4 recognising MHC Class 1 surface molecules, anti-desmin, UJ13A reactive with polysialylated N-CAM, Cam 5.2 reactive with low molecular weight cytokeratins, AMF reactive with vimentin intermediate filaments, antibody to 160 kDa neurofilament protein, GCTM-2 reactive with a proteoglycan present on the surface of ES cells, TG42.1 reactive with a 25 kDa protein which copurifies with the proteoglycan recognised by GCTM-2 and is found on stem cells and other cell types, and monoclonal antibody GCTM-5 reactive with a molecule present on a small proportion of cells in spontaneously differentiating human ES cell cultures.